

Jesus Mancilla

☎ +1 650 391 4301 | contact@jesusmancilla.com | [🌐 LinkedIn.com/in/jegama](https://www.linkedin.com/in/jegama) | [🐙 GitHub.com/jegama](https://github.com/jegama) | [🌐 jesusmancilla.com](https://jesusmancilla.com)

WORK EXPERIENCE

Argomai

Co-founder & AI Solutions Lead

Jan 2025 - Present

- Own enterprise architecture for multiple AI initiatives, defining domain models, service boundaries, data governance, and NFRs to support highly scalable customer-facing products.
- Partner with executives to translate business vision into technical roadmaps; created shared architectural vision that aligns GenAI/ML technologies with business objectives.
- Lead the design and implementation of complex systems, including vector databases, retrieval pipelines, reusable AI component library (embeddings, prompt templates, orchestration SDK), and autonomous agents using LLMs.
- Translate client needs into technical roadmaps, applying abstraction, reuse, and modularization principles to scale ML solutions.

Meta

Senior Quant User Experience Researcher

Jan 2024 - Jan 2025

- Developed and implemented a hybrid machine learning classifier for open-ended responses, utilizing clustering analysis, multi-agent chain-of-reasoning, human-in-the-loop feedback, and few-shot learning, significantly reducing analysis time.
- Led the development of Python-based analytical tools to streamline survey data analysis, enabling efficient processing and supporting fellow researchers across multiple projects.
- Merged behavioral data from editor logs and in-app surveys, employing data science and machine learning methodologies to produce comprehensive, data-driven insights.

Roku Inc.

Senior User Experience Researcher

Jan 2021 - Nov 2023

- Spearheaded the creation of an AI-powered indexed database of Roku's UX and CI research, enhancing data accessibility and leveraging AI techniques to improve search capabilities across the organization.
- Developed the Modular Survey Analysis System, integrating machine learning algorithms for generating detailed reports on survey data, including statistical analysis and NLP-based categorization of open-ended responses.
- Led quantitative and qualitative research on physical devices, deriving insights through behavioral log analysis from over 70 million devices to inform product development.

Walmart Global Tech

Senior User Experience Researcher

Aug 2019 - Nov 2020

- Orchestrated comprehensive data analytics projects for Sam's Club's mobile app using Tableau, establishing key performance metrics to guide strategic enhancements.
- Pioneered a data-centric approach, integrating user interaction data with business metrics to inform and transform the user experience.
- Presented synthesized research findings to a diverse group of stakeholders, including product managers, designers, and executives, influencing the user experience strategy and design decisions.

Scrapworks inc.

Data Scientist

Sep 2017 - Aug 2019

- Spearheaded a successful deep learning project that accurately forecasted commodities futures, yielding a 60% reduction in prediction error.
- Initiated an NLP-based merchandise classification project, contributing to a patent application and aiding strategic business decision-making.
- Created an interactive dashboard to visualize and filter 20 years of sales data, driving a 30% sales growth.

Suggestic

Senior User Experience Researcher

Dec 2016 - Sep 2017

- Executed data-driven testing and analysis for new app features, ensuring optimal integration and alignment with user needs and business objectives.
- Designed and developed advanced app prototypes, leveraging analytics to inform rapid iterations and feature enhancements.

Stanford University

User Experience Researcher

May 2016 - Nov 2016

- Conducted pioneering research on stress detection using machine learning algorithms, collecting and analyzing over 150 hours of car, biometric, and video data.
- Contributed to the development of algorithms with 90% accuracy in stress detection.
- Authored and contributed to research papers on automotive UI and pedestrian interactions, enhancing the academic discourse in UX design.

ITAM

User Experience Researcher

Aug 2014 - May 2016

- Created custom data visualizations and analyzed psychophysiological signals, identifying user behavior patterns using machine learning techniques.
- Crafted personalized user experience solutions for interactive technologies, spanning wearable, mobile, and web platforms.

SELECTED MACHINE LEARNING PROJECTS

- Research Librarian Project:** Developed an AI-powered index for UX and CI research, enhancing data retrieval with an innovative indexing algorithm, vector stores, and semantic retrieval.
- Modular Survey Analysis System:** Created an end-to-end ML report generator for survey analysis, integrating context-aware logic and autonomous clustering algorithms, improving efficiency and resource utilization.
- Customer Support Bot:** Defined reference architecture for LLM-augmented support chat, integrating LLMs, Retrieval-Augmented Generation, and observability stack.

PUBLICATIONS

Ramos-Rivera, R. E., Santana Mancilla, P. C., Garcia-Mancilla, J., & Gaytán-Lugo, L. S. (2025). Language models in education: Generative AI to optimize teacher performance analysis. *InnovAcademica*, 1(2), 74–85.

Ramos-Rivera, R. E., Garcia-Mancilla, J., Cárdenas-Villa, G. E., & Santana-Mancilla, P. C. (2024). Towards Improving Teacher Performance Assessment through Human-Centered AI-Powered Survey Analysis: An Approach Using Large Language Models (LLM). *Avances en Interacción Humano-Computadora*, 9(1), 261-264.

Baltodano, Sonia, Jesus Garcia-Mancilla, and Wendy Ju. "Eliciting Driver Stress Using Naturalistic Driving Scenarios on Real Roads." In *Proceedings of the 10th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*, pp. 298-309. ACM, 2018.

Currano, Rebecca, So Yeon Park, Lawrence Domingo, Jesus Garcia-Mancilla, Pedro C. Santana-Mancilla, Victor M. Gonzalez, and Wendy Ju. "¡Vamos!: Observations of Pedestrian Interactions with Driverless Cars in Mexico." In *Proceedings of the 10th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*, pp. 210-220. ACM, 2018.

J. Garcia-Mancilla, J. E. Ramirez-Marquez, C. Lipizzi, G. T. Vesonder, and V. M. Gonzalez, "Characterizing negative sentiments in at-risk populations via crowd computing: a computational social science approach," *International Journal of Data Science and Analytics*, Jun. 2018.

Garcia-Mancilla J., Martinez V.R., Gonzalez V.M., Fajardo A.F. (2016) Social Influence and Emotional State While Shopping. In: Nah FH., Tan CH. (eds) *HCI in Business, Government, and Organizations: eCommerce and Innovation*. HCIBGO 2016. *Lecture Notes in Computer Science*, vol 9751. Springer, Cham.

Garcia-Mancilla J., Gonzalez V.M. (2016) Stress Quantification Using a Wearable Device for Daily Feedback to Improve Stress Management. In: Zheng X., Zeng D., Chen H., Leischow S. (eds) *Smart Health*. *Lecture Notes in Computer Science*, vol 9545. Springer, Cham.

L. Ferrer, J. Garcia-Mancilla, V. M. Gonzalez, S. Bermudez, P. Bleier and C. Prieto, "Using augmented reality in urban context: Georeferenced system for business localization using Google Glass," 2015 IEEE First International Smart Cities Conference (ISC2), Guadalajara, 2015, pp. 1-6. doi: 10.1109/ISC2.2015.7366157.

González V.M., García J., Muro B. (2015) Searching for Information: Comparing Text vs. Visual Search with Newspapers Websites. In: Yamamoto S. (eds) *Human Interface and the Management of Information*. *Information and Knowledge Design*. HIMI 2015. *Lecture Notes in Computer Science*, vol 9172. Springer, Cham.

Montes R., Garcia-Mancilla J. (2015), Programas psicoeducativos para el autocontrol de la diabetes de corte cognitivo-conductual In G. Solano, A. Del Castillo, R. M. E. Guzman, M. Garcia, A. Romero (Ed.), *Diabetes y Educacion, de la teoria a la practica* (119-146). Ciudad de Mexico: Planeacion y Servicio Editorial S.A.

Garcia-Mancilla J., Montes-Delgado R., Santana-Mancilla P. Quality of Life (QoL) and self-efficacy on elderly with diabetes mellitus type 2: Study in the Mexican State of Colima. *Rendez-Vous 2012*, Thunder Bay, Canada, Octubre 2012.

Montes R., Garcia-Mancilla J., Oropeza-Tena R. Self-control techniques for the right management of diabetes mellitus type 2 (DM2) in adults. *Rendez-Vous 2012*, Thunder Bay, Canada, Octubre 2012.

SKILLS

- Programming Languages:** Advanced proficiency in Python, R, SQL, JavaScript/TypeScript
- Machine Learning:** Expertise in machine learning, deep learning, NLP, LLMs, RNNs, transformers, prompt engineering
- Data Analysis:** Statistical analysis, data visualization, predictive modeling, trend analysis, KPI development
- Databases:** Experience with Vector Databases, building automation pipelines, data processing, workflow optimization
- Frameworks:** FastAPI, LangChain/LangGraph, React/Next.js, TensorFlow, PyTorch, Scikit-learn
- Languages:** Fluent in Spanish and English

EDUCATION

Instituto Tecnológico Autónomo de México	
M.S. in Computer Science (HCI/AI Focus)	2014 - 2016
Universidad de Colima	
B.A. in Psychology	2009 - 2013